IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/540,392
Applicant : Beier MARKUS
Filed : June 23, 2005
TC/A.U. : 1639
Examiner : Teresa D. Wessendorf

Docket No. : 2923-714
Customer No. : 6449
Confirmation No.: 2991

**RESPONSE**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

November 18, 2008

Sir:

In the Office Action dated August 18, 2008, claims 18-19 and 22-38, in the above-identified U.S. patent application were rejected. Reconsideration of the rejections is respectfully requested in view of the above amendments and the following remarks. Claims 18-19 and 22-38 remain in this application, claims 1-17 have been canceled and claims 20 and 21 have been withdrawn.

Claims 18-19, 24-25, 27-28, 30-34 and 36 were rejected under 35 USC §102(b) as anticipated by Schuetz. Applicant respectfully points out that Schuetz discloses a multianalyte immunosensor array using specific haptens which are immobilized in different areas on a solid surface. While the solid surface can be a single cavity or flow cell, in the examples, Schuetz immobilizes the specific hapten derivatives on 96-well microtiter plates to determine the analytes. Schuetz uses the hapten group as a receptor. In contrast to this, in the present invention the hapten groups are different from the receptors. The receptors may be synthesized on the haptens but the haptens themselves are not the

receptors. This is clear from the fact that the receptors in the present invention are synthesized in predetermined zones on the carrier not just immobilized on the carrier. Thus, Schuetz does not disclose a method for synthesizing receptors in predetermined zones on a carrier or passing liquid with receptor building blocks over predetermined zones on the carrier so that the receptors are synthesized in situ from individual receptor building blocks. In addition, Schuetz does not use a microfluidic carrier as recited in the present claims. In view of the above discussed differences, applicants request that this rejection be withdrawn.

Claims 18-19 and 22-38 were rejected under 35 USC §103(a) as unpatentable over WO 0013018, WO 0289971 or WO 0232567 in view of Wu, Gray or Edwards. As discussed in applicant's prior response, neither WO 0013018, WO 0289971 or WO 0232567 disclose the application of hapten groups to the carrier before, during or after the synthesis of the receptors. The hapten groups are an integral part of the present invention. Wu is directed to novel polynucleotides encoding MMP-29. Wu only discloses the attachment of his polynucleotides to haptens to facilitate purification. See page 127, lines 23-27, which indicates that the polypeptide is chemically modified with hapten groups in order to purify specific monoclonal antibodies by immunoprecipitation. Wu does not suggest or disclose the application of hapten groups to the carrier before, during or after the synthesis of receptors in situ. Gray discloses a method for the production of a multivalent polypeptide display library. Gray binds a biotin marked receptor to a solid phase coated with avidin to selectively remove the receptor from the solution. Thus Gray uses biotin for immobilizing antigens and antibodies. Edwards discloses GSSP-2DNA and GSSP-2 polypeptides and the use of biotin as a capture molecule or a label. The hapten

modified substrates are used for separating specific oligonucleotides. Neither Gray nor Edwards discloses the use of haptens in the synthesis of receptors on a microfluidic carrier. Applicant contends that the newly cited references, Wu, Gray, and Edwards show only that haptens were well known in the art and can be used for separation or purifying receptors. None of the cited references suggest or disclose that haptens can be used in the synthesis of receptors and the quality and efficiency of the receptor synthesis can be easily determined or controlled due to the use of haptens. In the present invention, both the hapten group and the receptors are already immobilized on the microfluidic carrier before determining the analytes. Therefore, none of the cited references suggests or discloses that haptens can be used during the in situ synthesis of the receptors in order to control and/or determine the quality and efficiency of the receptor synthesis. In view of the above discussion, applicant requests that this rejection be withdrawn.

Applicant respectfully submits that all of claims 18-19 and 22-38 are now in condition for allowance. If it is believed that the application is not in condition for allowance, it is respectfully requested that the undersigned attorney be contacted at the telephone number below.

In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

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